AdaCAD Workshop Series, Spring 2025

Organized by the Unstable Design Lab and AdaCAD Team: Laura Devendorf, Deanna Gelosi, and Etta Sandry

unstabledesignlab@gmail.com ~~~ https://unstable.design ~~~ ig: @unstabledesignlab

All workshops will take place on
Wednesdays from 9am - 10am Mountain

Zoom Link for all workshops and office hours:
https://cuboulder.zoom.us/j/99020494659
Meeting ID: 990 2049 4659

Topics:
March 19 2025, Getting Started with AdaCAD
April 16 2025, Weaving Imagery
May 14 2025, Drafting for Harness and Dobby

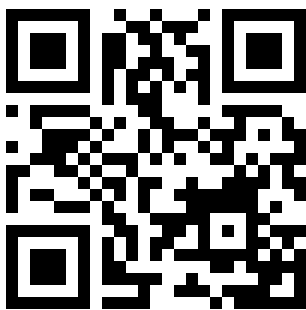All workshops will be recorded and shared at:
 https://docs.adacad.org/docs/learn/workshops-and-events/

Office Hours
Office hours offer you a space to come chat with the AdaCAD project team. We can help answer your question or demonstrate new techniques. There is no formal schedule, just drop in the call if/when you have a question to ask.
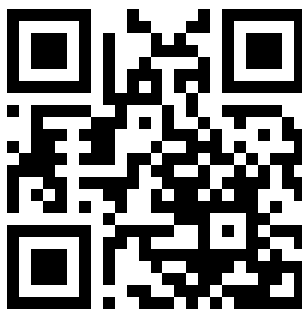
Monday, March 31 2025, 4pm-5pm Mountain Time
Monday, April 21 2025, 4pm-5pm Mountain Time
Monday, May 19 2025, 4pm-5pm Mountain Time

Have questions after the workshop? Ask them here
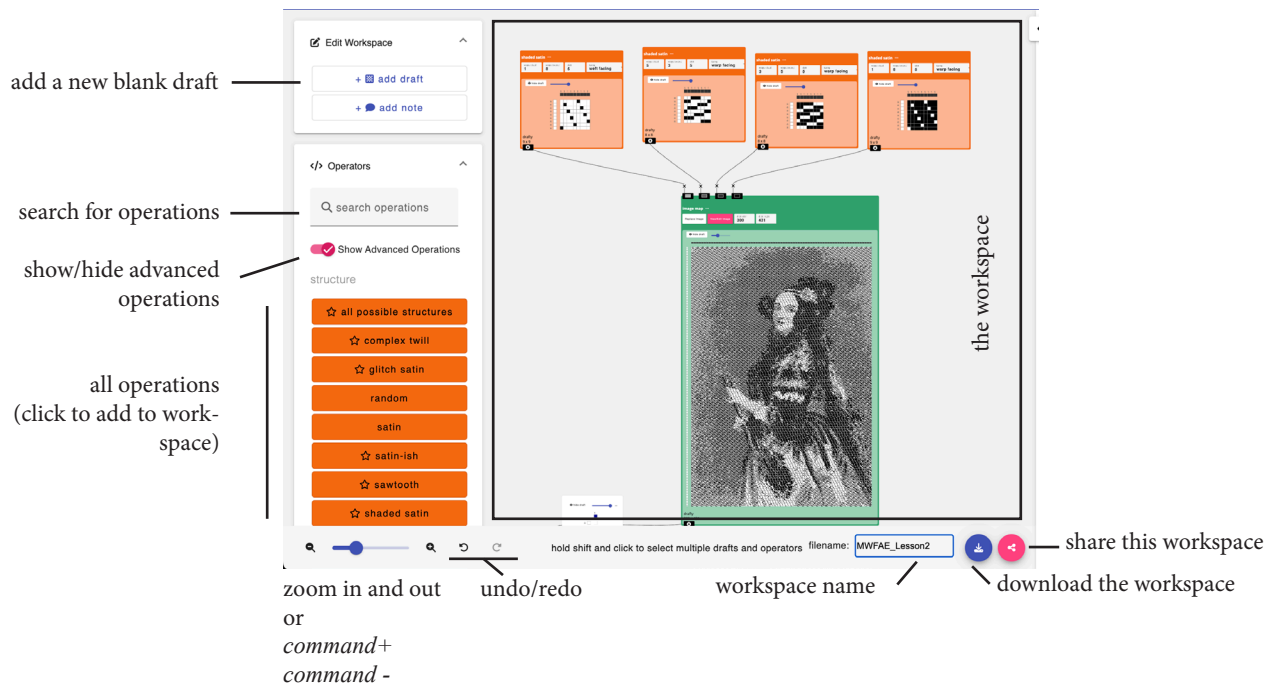
helpful links:

Use AdaCAD Online
https://adacad.org

Documentation
https://docs.adacad.org/

Join the Discord Community
https://discord.gg/Be7u-kQcvrC

The User Interface

header

view examples

report bugs, link to help

AdaCAD   version 4.2.6   🏠 🎨 💡 ⚙️ ?   design mode | draft | workspace | Hi Laura Devendorf ▾

toggle between the **draft editor** and **workspace** view

workspace view

add a new blank draft

search for operations

show/hide advanced operations

all operations
(click to add to work-space)

zoom in and out
or
command+
command -

undo/redo

workspace name

share this workspace

download the workspace

draft editor view

left to right:
select, toggle heddle value, heddle down, heddle up, unset heddle

adjust loom settings or number of warps and wefts

click to cycle through materials
click to cycle through system assignments

viewer

open this draft in the editor.

change the view:
- 🎲 simulation
- ▦ draft
- # structure
- 🖌 color pattern

pins this draft in the viewer

zoom the viewer

download this draft
(as .wif, bitmap or image)

Terminology

this is a dataflow

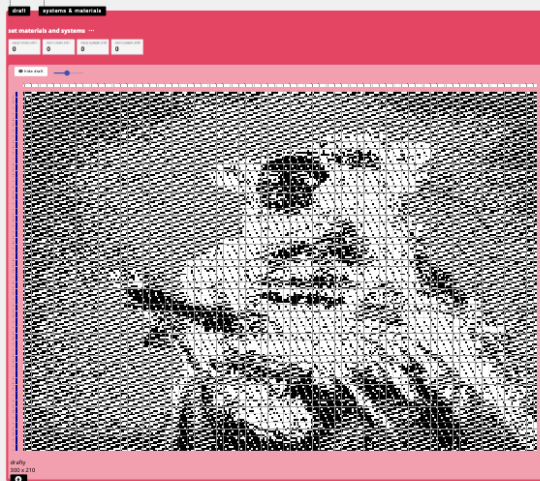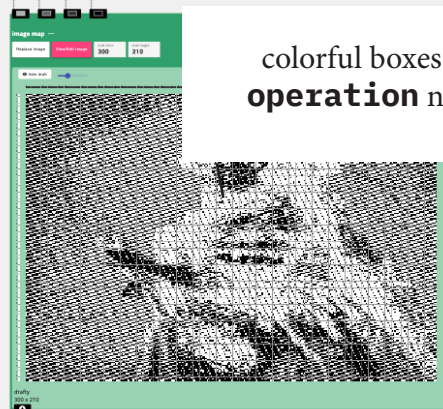the nodes at the top of the dataflow usually contain structures

colorful boxes are **operation** nodes

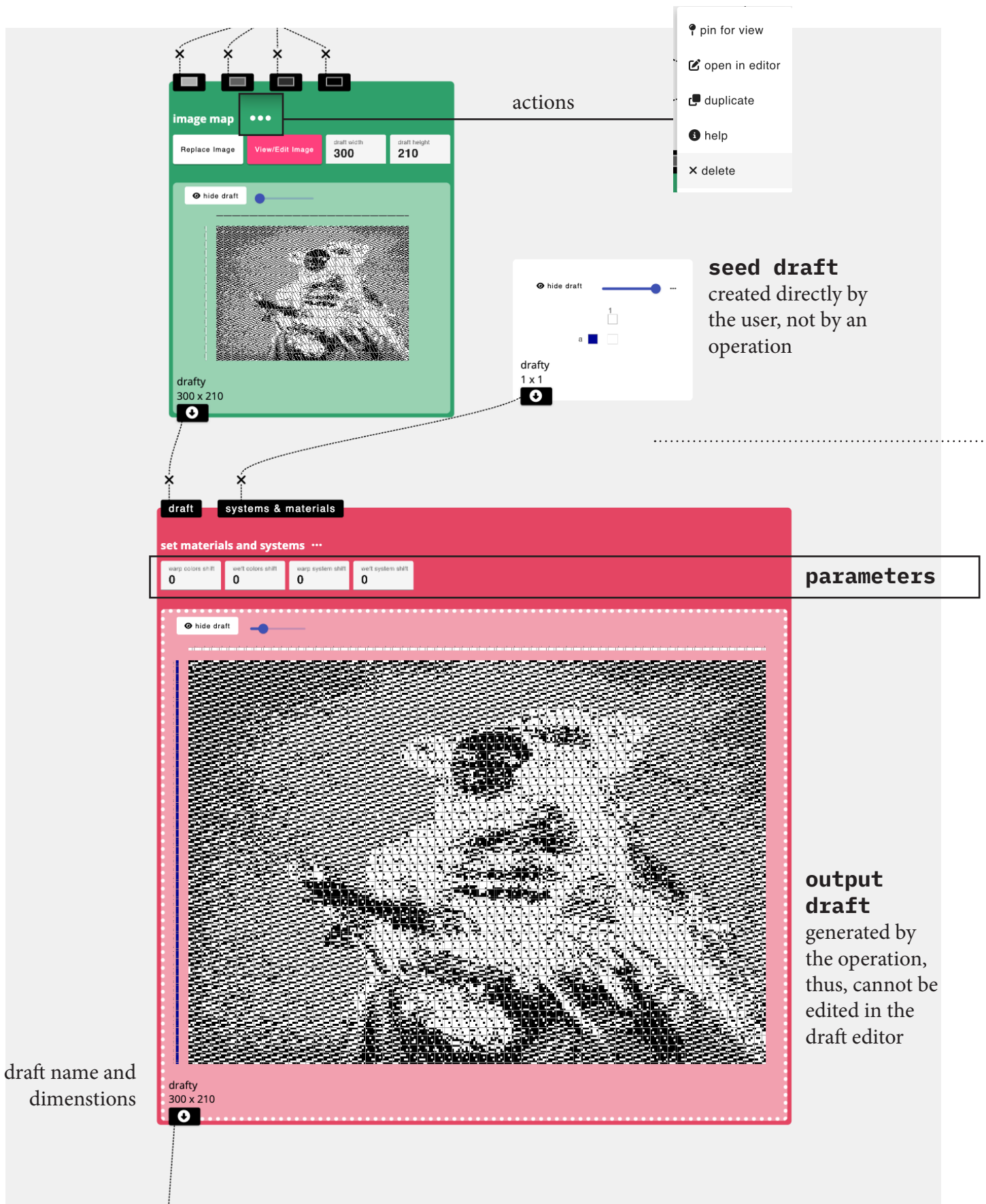white boxes with drafts are **draft** nodes

the nodes in the middle of the dataflow usually place the structures into different arrangements
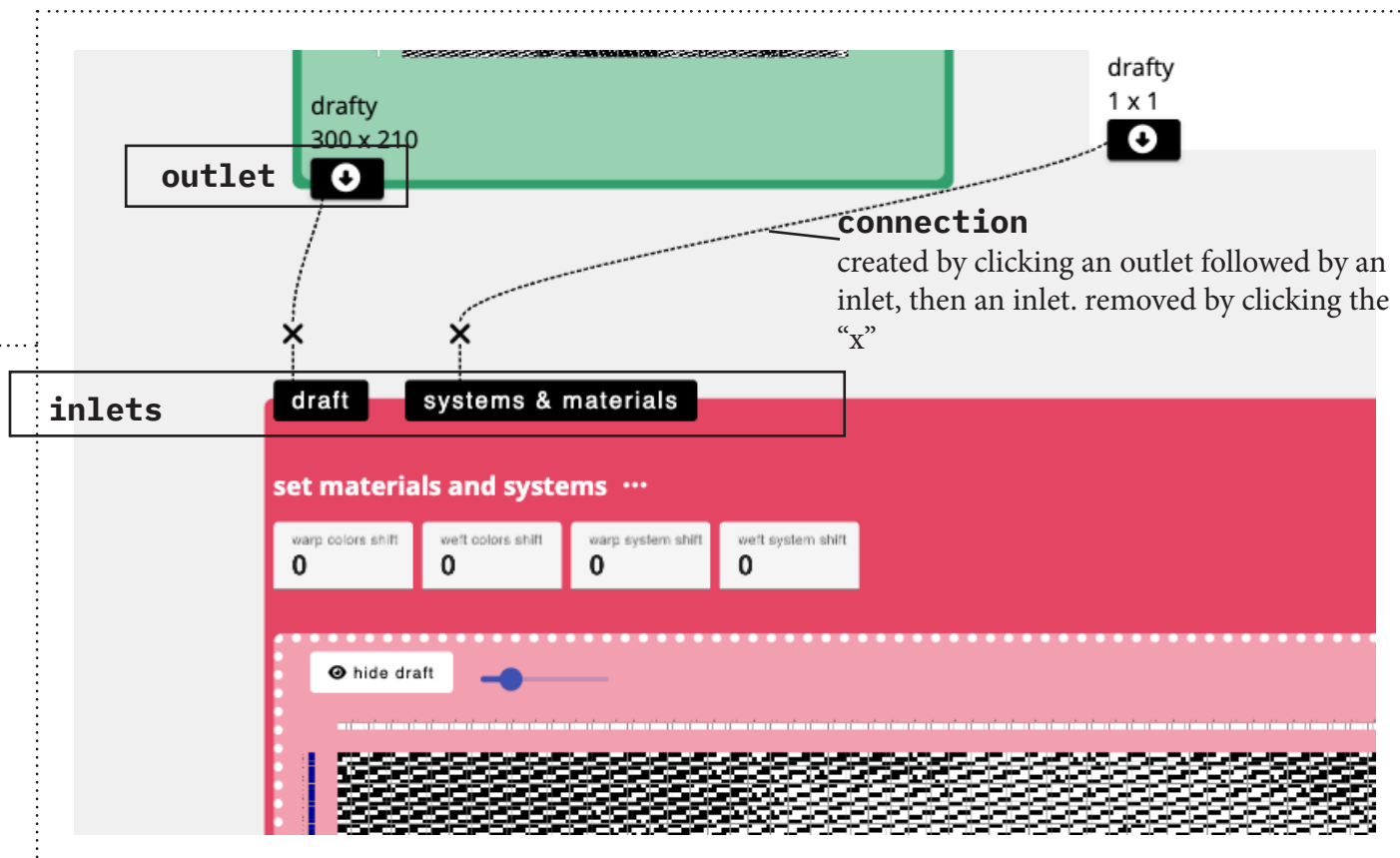
the last node in the dataflow represents your cloth

these can be downloaded as an image, .wif, or bitmap image

Terminology

pin for view

open in editor

duplicate

help

× delete

image map

actions

Replace Image   View/Edit Image   draft width **300**   draft height **210**

hide draft

drafty
300 x 210

hide draft

seed draft
created directly by
the user, not by an
operation

drafty
1 x 1

draft   systems & materials

set materials and systems ···

warp colors shift **0**   weft colors shift **0**   warp system shift **0**   weft system shift **0**

parameters

hide draft

**output
draft**
generated by
the operation,
thus, cannot be
edited in the
draft editor

draft name and
dimenstions

drafty
300 x 210

outlet

drafty
300 x 210

drafty
1 x 1

inlets

draft

systems & materials

connection
created by clicking an outlet followed by an inlet, then an inlet. removed by clicking the "x"

set materials and systems ···

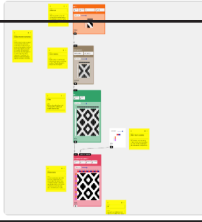| warp colors shift	weft colors shift	warp system shift	weft system shift
0	0	0	0

👁 hide draft

Activity 1: Getting Started with AdaCAD

Examples

Community Projects   AdaCAD Templates

Making your First Workspace
by AdaCAD project team
This workspace demonstrates a starting point for making workspaces in AdaCAD by chaining together one operation from each operation category and seeing what emerges

OPEN

Basic Operations
by AdaCAD project team
This workspace contains all of the beginner level operations that AdaCAD

OPEN

1. Open the **Making your First Workspace** from Examples-> AdaCAD Templates

2. Explore the template by changing the parameters of any operation

3. Swap out the operations by replacing the **structure** operation on the workspace with a new structure operation from the operations list, the **transformation** on the workspce with with a new transformation operation from the operations list, and so on.

4. Change the color sequences of the warps and wefts by modifying the **seed draft** connected to the materials & systems inlet on the **set materials and systems** operation to see what effect they have on the viewer.

Next Steps

If you are feeling confident, click the 'show advanced operations' toggle to find more operations to explore.

You can also explore all of the operations AdaCAD currently has in the Documentation

https://docs.adacad.org/docs/reference/operations

structure

random
satin
tabby
twill
waffle

transformations

flip
invert
make symmetric
rotate
shift
slope
stretch

cloth

join left
join top
rectangle
tile

color effects

set materials and systems
set warp materials
set weft materials

Activity 2: Weaving Imagery in AdaCAD

Portrait by Alfred Edward Chalon (1838), Watercolor portrait of Ada King, Countess of Lovelace (Ada Lovelace)

1. Open the **Weaving Imagery** Workspace from
   Examples -> AdaCAD Templates

2. Adjust the **shaded satin** inputs to explore
   other color variations

3. Adjust the **rectangle** operation at the end of
   the dataflow to fit the size of your loom (and if you
   don't have a loom that can do this, assume you
   have a TC2 that is 1320 ends wide).

4. Download the draft as a .bmp

Next Steps:

add a **selvedge**

replace the shaded satins with different shaded
structures, such as **twill**, **complex twill**, or
random

Play with different color sequences by changing the
systems & materials input to
set materials and systems

Activity 3, Drafting for Harness and Dobby Looms

The diagram below shows a threading split into different blocks.
Assign each unique block a letter and write it in the corresponding space below the block.
If the block repeats, assign repeated block the letter of the block it repeats
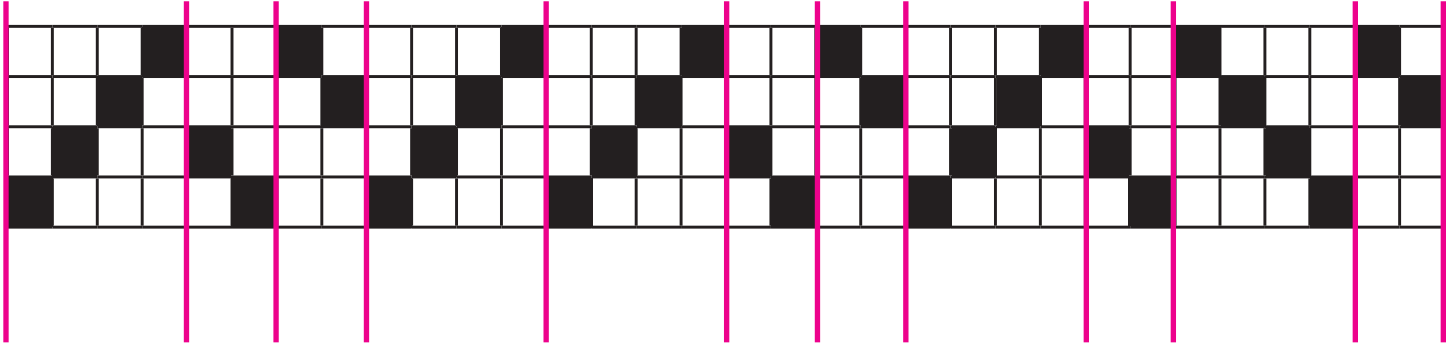
1. Open the **Designing For Harness Looms**
    Workspace from Examples -> AdaCAD Templates

2. Fill in the drafts above the **Pattern Across Width** operation to match the unique blocks.

3. Copy the list of letters generated above, and
    add them to the text box within the **Pattern Across Width** Operation on AdaCAD.

4. Connect each draft block to it's corresponding
    inlet. For example, connect the block associated
    with "a" to the inlet "a".

    *what you should see now is the following threading
    sequence, generated parametrically by the Pattern Across
    Width Operation*

v

Extra Explorations:

Change the sequence of letters in
pattern across width
to modify the threading.

Delete the existing tieup draft and replace it with
a **twill** operation. Modify the parameters of the
twill operation and observe what happens in the
drawdown.

Create multiples or reflections of the threading using
tile or **flip** and **join left**

Notes...